Analysis Of House Price Bubbles and Macroeconomic Policy Regulation

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Abstract. House prices are a reflection of a country's economic growth and a city's overall competitiveness, and are determined by supply and demand after integrating various factors. Real estate is an important pillar industry all over the world, and almost everyone sees property as an important reflection of economic property. Real estate includes residential and commercial property. In 2023 real estate will remain an important and large industry. House prices are something that is closely watched in people's lives. When there is a change in house prices it can have an impact on the whole society and economy. This study focuses on the impact of macroeconomic policies on the house price bubble economy and the causes of the house price bubble economy. The study will adopt an objective perspective and a formulaic approach to analyze the house price bubble economy. This study will use the example of Japan during the bubble economy to explain this. It is found that different macroeconomic policies will lead to different economic effects that will trigger the strength of the house price bubble, such as macroeconomic policies that lead to inflation and then lead to the strengthening of the house price bubble.

Keywords: Real estate; macroeconomic policy; bubble impact; property prices.

1. Introduction

1.1. Research Background

Real estate has both consumer and financial attributes, with the consumer attribute being residential demand, including first-time home buyers and second-time home buyers for improvement, and the financial attribute being an investment or speculative demand, where the spread is gained in a price game. Real estate is a problem that emerging developing countries have to face. Take China as an example, the population has skyrocketed, resulting in tight pressure on housing, the population will grow in the future, the country imposes strict macro-controls, and house prices will not fall, indicating that urbanization is still going on, the demand for urban home ownership is high, and there is a huge bubble. Also, houses are tied to many things such as education, healthcare, and retirement, which makes them a more important part of people's lives. To make it easier to understand, there is a huge bubble between the average house price of 55,000 yuan per square meter in Shenzhen, Guangdong Province, China, in 2019, and the disposable income per capita of 60,000 a year, which makes it surprising that a year's work can only afford a one-square-meter house, there is a huge bubble in between.

1.2. Literature Review

Professor Xie Baisan contends that the current real estate market in some Chinese cities is exhibiting signs of a bubble economy. This is attributed to a surge in investment and land enclosure in certain cities over the past two years, leading to an irrational increase in real estate prices and a high vacancy rate of commercial properties [1]. Xie Jingrong, Feng Lei, and others conducted case studies, regression analyses, and other methodologies to systematically analyze the real estate bubble issue in China. They hold the view that while there is a bubble in China's real estate industry, it is regional rather than national [2]. Huang Zhengxue believes that the persistent increase in property prices, alongside the high real estate vacancy rate and the substantial upswing in real estate investment,

are superficial traits and do not indicate a real estate bubble. He applies the four major indicators to measure China's real estate market and concludes that the values of the relevant parameters of the current real estate market are relatively reasonable. He finds no evidence of a real estate market bubble in China [3]. According to Xiao Zhuoji, the unique features of the property market result in a prolonged sales period, and the phenomenon of vacant properties is only temporary. Nationally, there is no surplus of properties. In the rapid economic growth stage, certain commodities experience an unavoidable supply and demand imbalance, which is a market economy phenomenon. It should not be mistaken for a bubble due to an imbalance of supply and demand [4]. Lin Yunxia believes that, currently, China's property market is mostly healthy. However, certain cities have experienced an excessive increase in real estate investments along with excessive land supply and rapid rises in house and land prices. Additionally, the vacancy rate for high-end commercial housing continues to rise in these cities. These phenomena should be a cause for concern, as they indicate that the real estate market in these cities may be overheating [5].

1.3. Research Content And Significance

This paper will explain the impact of macroeconomic policies on the real estate bubble, what causes the real estate bubble to be born, and how to identify the discharge property bubble. In addition, there is a formula to understand the degree of the housing price bubble, the normal value of the index is 1, and if higher than 2 means that the bubble appears, and higher than 3 means that the bubble is very serious. If it is not handled well, it will cause macroeconomic turmoil, resulting in huge economic losses for the people and seriously jeopardizing the security of their economic interests. The bursting of a real estate bubble often also has an impact on our quality of life and lifestyle, affects urban development, and can be a trigger for financial crises.

2. Indirect And Direct Response Theories Of Macroeconomic Policies To Real Estate Bubbles

There are two scenarios in which macroeconomic policy can respond to a property bubble, one of which is the indirect response theory, in which macroeconomic policy can be pursued only when the property bubble affects the rate of growth of output in relation to the expected rate of inflation and total expenditure. In accordance with the implementation of the Taylor rule, the Taylor rule by the United States Stanford University Professor of Economics John B. Taylor. Taylor proposed in 1993, that if inflation rises, the economy is overheating, and prices rise, according to Taylor's rule, the federal benchmark interest rate should rise, through the interest rate hike to curb economic overheating, reduce inflation, reduce prices and maintain price stability. But the central bank should not and is not worth bursting the real estate bubble, for the following reasons, if the government bursts the bubble, housing prices instantly fall, which will make many people face mortgage defaults, and affect the real estate business, but also implicated in the upstream and downstream enterprises. Moreover, small increases in interest rates have little effect on investor or consumer incentives and thus on asset prices, while large increases in interest rates can cause financial market turmoil and economic downturns [6]. This is undoubtedly a dilemma for the Government. Some people may think of when the Japanese Government took the initiative to burst the property market bubble. The following reasons, firstly, when the real estate bubble in Japan was already very serious, the market value of the properties in a district in Tokyo was equivalent to the market value of real estate in the whole of the United States. Back then, Japan as long as a little bit of money are leveraged speculation. Therefore, even if Japan wanted to protect property prices, it could only protect them for a while, but not for a long time, rather than that, it is better to have short-term pain than long-term pain. And the protection of housing prices will only continue to push up the housing price bubble, bringing more and more harm. Secondly, after the bursting of the property bubble in Japan, the Japanese economy was hit and the GDP remained stagnant for 30 years, which is known as the "lost 30 years". However, the quality of life of Japanese nationals has not declined, and Japan is still one of the few developed

countries in Asia. This is mainly because, although Japan's domestic economy has declined, there were still overseas investments in the 1960s and 1970s, Japan's total investment overseas was as high as 10 trillion U.S. dollars, bringing an annual investment income of 3 trillion. Therefore, with the proceeds from its overseas investments, Japan has managed to remain a developed country, and the quality of life of its people has not been drastically lowered. Obviously, Japan has also withstood the impact of the bursting of the property bubble. In addition, although Japan's domestic economy has stopped growing for a long period of time, its GNP (Gross National Product) is not bad, and it still brings Japan a considerable amount of income every year, so whether the property bubble can have a serious negative impact on the macro-economy depends on the financial structure of the economy and the fragility of the economic system. In China, the government considered that if the property bubble bursts quickly, a large amount of excess currency would be crowded into the commodity market, which would lead to a big rise in domestic prices. Therefore, it is necessary to make a soft landing for housing prices and gradually return to the property of residence, rather than bursting the property bubble at once. It is also necessary to consider the feelings of the front home buyers. If the domestic housing prices are a big drop, not only will the economy and finance have an adverse impact, but also the life of the previous years of home buyers, the current domestic loan buyers have 400 million people, if the rapid decline in housing prices, there will be a significant shrinkage of the assets of these home buyers. The other case is the direct response theory, which states that monetary policy should respond directly to bubbles, even if they do not affect the variables In economic models analyzing monetary policy, this school of thought argues that asset prices should enter into the response function of optimal monetary policy, regardless of whether or not they have an effect on the expected rate of inflation and the current rate of growth of output. Monetary policy should be exercised against the development of the bubble, based on the following short-term interest rates will have an impact on asset prices because it can affect credit conditions and people's investment and consumption decisions, the success of the United Kingdom, Australia and New Zealand have proved that the bubble can be burst with gradually tightening monetary policy. Japanese scholars Kunio Okina, Masaaki Shirakawa, and Shigenori Shiratsuka define the Japanese bubble economy, a bubble economy consists of three elements: a rapid rise in asset prices, an overheated economy, and a massive increase in the supply of money and credit. Many factors can lead to a bubble economy in Japan, including aggressive operation of financial institutions, financial deregulation, inadequate risk management in some financial institutions, the introduction of the "Basel Accord", expansionary monetary policy that dragged on for too long, land taxation that accelerated the rise of land prices, and regulatory policies, overconfidence and irrational behavior of investors, and Tokyo assuming too many economic functions and becoming an international financial center. irrational behavior of investors, Tokyo assumed an over-concentration of economic functions and became an international financial center [6]. Expansionary monetary policy can cause asset prices to rise through three channels. First, expansionary monetary policy lowers the cost of financing for investors, which helps them to invest. The second, monetary expansion also leads to higher stock prices, stimulating capital demanders to raise funds by issuing new shares and convertible bonds. Third, higher land and stock prices increase the price of land and stock held by firms.

3. Reasons For The Birth Of The Housing Bubble Economy

A bubble economy, as the name suggests, is an illusory economy, a booming economy like a bubble seems to be perfect in reality illusory, the illusory economy continues to grow so that the price level of goods reaches a high height when the bubble bursts will certainly have a huge impact on the economy. The burden of people's lives has increased and the standard of living has declined. Since the opening up and reform, the incomes of Chinese residents have increased significantly and Engel's coefficient has decreased. This reduction has resulted in improved consumption outcomes and stronger investment prospects. The effective demand for housing has been propelled by reforms in the housing system, leading to changes in family structures. With the advancement of urbanization,

residents' demand for housing has further expanded, which is one of the reasons for the continued rise in house prices [7]. At present, one reason for the increase in housing prices in certain parts of China is the decrease in the supply of low-priced commodity housing. Meanwhile, there has been an increase in the supply of high-grade commodity housing, leading to a significant rise in their development over time. Consequently, there is an excess of empty high-grade commodity housing, while there is a shortage of affordable housing and low-priced, ordinary commodity housing. This structural contradiction poses a significant challenge. Improve the vacancy rate of affordable housing while continuing to enhance low-priced ordinary commodity housing prices. Additionally, addresses the undeveloped state of China's second-hand market, where a significant amount of housing inventory remains stagnant, leading to an excessive concentration of demand in the commercial property market and ultimately increasing market prices [8]. Impulsive investment is one of the causes of the housing bubble economy, where the increase in the number of houses under impulsive investment leads to a rise in the demand for houses, which in turn leads to a rise in the price of houses. This leads to the concept of property speculation. Speculation is the buying of property only when prices are low and the selling of property when prices have risen to a certain level for financial gain. The creation of speculation has fuelled the growth of the house price bubble economy. Therefore, the central government stressed that "houses are for living, not for speculation". From the many statements made by the central government and relevant ministries and commissions in important meetings and documents, the speculative capital-driven characteristics and bubble risk behind the rise in house prices can be clearly felt [9].

4. Identification Of House Price Bubbles

Of course, the bubble economy of house prices can be judged in advance. When comparing Japan's house price graphs over the years it is clear that the price curve of house prices is soaring upwards and uncontrollably. Comparing the house price level in Australia, we can know when in the housing price bubble the house price level keeps increase and can not be controlled. In the year 2020, Australia was in the house bubble price, and the house price level increased by 20.3% in one year [10]. This shows that the housing bubble economy and the rise in house prices are inextricably linked. It is evident that the bubble economy and the escalation of property prices are closely intertwined. Whilst not all property value rises are a consequence of the bubble economy, it is essential to scrutinize the underlying causes for the surge in property prices. If research identifies no unambiguous rationale for the hike in housing prices, it is prudent to exercise caution and be vigilant about the existence of a potential bubble economy. The second method to identify a bubble economy is to compare the correlation between house prices and incomes. Research indicates that house prices fluctuate based on income. Typically, income growth exceeds the growth rate of house prices. This is due to the fact that the boost in income provides consumers with confidence and prompts them to spend money, resulting in higher house sales. However, the rate of growth in house prices exceeds that of income, leading to a loss of consumer confidence and a decline in house sales. This is not in alignment with sound business planning, and it highlights the skyrocketing cost of housing and the presence of a housing market bubble. Thirdly, it is imperative to scrutinize the link between property investment and economic expansion. The appropriate investment level can expedite the progress of the property sector. However, if the investment becomes excessive, several firms may invest in real estate, which could surpass the economy's affordability. This bubbles up the economy, resulting in a massive impact on the economic market.

The indicator approach may be utilized to identify housing price bubbles by calculating the magnitude of a property market bubble via a mathematical amalgamation of diverse indicators or metrics related to property market bubbles. Some of these indicators are direct measures of real estate bubbles, such as the growth rate of house prices, the growth rate of land prices, the housing vacancy rate, the house price-to-income ratio, and the ratio of the growth rate of real estate prices to the nominal growth rate. The ratio of real estate prices to the average annual income of residents'

households, known as the house price-to-income ratio, signifies the residents' ability to afford their housing. A higher ratio indicates a lower affordability. When this indicator continues to increase, it suggests that the escalation in property prices surpasses the increase in residents' actual capacity to pay. The pace of house price growth is a key indicator of the real estate bubble's reach, reflecting the growth rate of the virtual economy compared to the real economy. This metric monitors the trend of the property market bubble, with a higher value indicating a larger bubble. There is a formula below,

$$K = \sqrt{Q1Q2Q3} \quad (1)$$

Q1 denotes house price growth rate/real GDP growth rate, Q2 denotes house price-to-income ratio, and Q3 denotes housing mortgage payment/residents' monthly income. k-value is a value greater than zero, and the larger the k-value, the higher the degree of the property bubble [11].

5. Recommendations For The Governance Of Property Bubbles

The initial objective is to enhance the residential security system, addressing housing security, which is connected to individuals' welfare and progress. Sustain safeguarding the housing necessities of the public. Adhere to the principle that houses are for living, not speculation. Explore new models of development whilst adhering to rental and property-purchase guidelines. Accelerate the growth of the long-term rental housing market, encourage the construction of affordable housing, and support the commercial property market in meeting the reasonable housing needs of homebuyers. Ensure stability in land and housing prices and create city-specific policies that promote the healthy growth of the housing industry. The second point is to actively develop the rental market. Solving the problem of everyone purchasing a home globally is extremely challenging, and the relentless pursuit of "everyone buying a home" can only lead to an unrealistic surge in demand, resulting in a property bubble. Adequate housing is a crucial necessity for the population and a significant aspect of attaining a prosperous life. Therefore, it demands the creation of a "graded market" for housing supply that encompasses newly built commercial housing, second-hand housing, rental housing, and low-cost housing. Thirdly, we should actively and steadily progress the reform of real estate taxes and fees, and enhance relevant land policies. Taxes are a significant source of government revenue and a crucial tool for income distribution. Taxation should adhere to efficiency, equity, and stability principles. Clarification is required regarding the role of city governments in public land management. Strict laws should prohibit land transactions to prevent land speculation, and compensation for demolition and relocation should be transparently explained in terms of land ownership [11]. Fourthly, a crucial aspect of resolving the challenging real estate bubble is to accomplish the reform of the administrative system of local government. This means transitioning from an "omnipotent controlling government" to a "limited responsibility government" and reversing the current situation of the incumbent local government solely benefiting from the "one dominant position" in the distribution of land wealth, to establish a more equitable distribution. It is essential to make the local government a "one dominant position." In the distribution of land wealth, the current local government "one share" enjoys the primary interests. The expropriation of non-public welfare land and collective land can be decreased, provided it adheres to the construction plan and does not require government expropriation, to directly enter the construction market. As for irregularly and centrally listed land supply, the bidding and auctioning process should be altered [12]. Fifthly, it is recommended to establish a government-level early warning system for real estate bubbles, with emphasis on real estate early warning. If the critical bubble rate triggering a financial crisis is significantly higher than the bubble rate identified by the PER test for interest rate adjustment, then it indicates that the actual real estate bubble is not significant, or there might be no real estate bubble at all. Thus, it is crucial to focus on minor corrections to the current real estate issues at this time. If the critical rate at which a financial crisis is triggered is equal to or greater than the PER rate in practice, it implies an extremely serious real estate bubble that may precipitate a financial crisis. In such instances, immediate action must be taken to control the situation, and early warning systems should be established for real estate in distinct regions.

The real estate market is considered a dynamic market due to its constantly changing nature. To identify a dynamic market, it must be flexible enough to mirror current market and financial trends. If the indicator system can be condensed from six months to three or even one week, the shorter the cycle time, the more impactful the early warning will prove [13].

6. Conclusion

This research paper analysis the important role that the real estate play on the country, explain some reasons why the real estate bubble economy will happen, what cause the real estate bubble economy, how to judge the real estate bubble economy, how the macroeconomy policies set by the government immediate and undirection influence the real estate price level, and some suggests to improve the real estate bubble economy. This research finds that the real estate bubble economy is necessary to happen. It can not avoid. Some macroeconomy policies to stimulate the consumption will cause the demand for houses increasing and some market failure to increase the cost of the houses. These changes will cause inflation, and the real estate bubble happens. The real estate bubble economy is direct proportion to inflation, and the similar feature to the inflation-they all can not avoid, only can control. This research is not accurate. This research uses the former data to compare and get the conclusion. It is hard to make sure the data before is accurate. This research lacks time to have a long-term recording experiment to confirm this research is correct and valid. Some of the suggestions for the real estate bubble have no evidence to point out these suggestions for the real estate bubble is efficicency. In the future, make a long time experiment of the macroeconomy policy to the real estate bubble economy is necessary. According to the more accurate data, we can know clearly about the different policies that influence the real estate bubble economy for different levels. Second, expend more samples is important. More samples can help the experiment be more valid. There are many factors that can influence the real estate bubble economy. Some of the factors can be ignored, but some of the factors need to think carefully.

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